

REMARKS

Claims 4-12 and 16-24 are pending in this application. Claims 4, 11-12, 16, and 23-24 are independent. In light of the remarks made herein, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections.

In the outstanding Official Action, the Examiner rejected claims 4-7, 9-12, 16-19, and 21-24 under 35 U.S.C. §103(a) as being unpatentable over *Yamaguchi et al.* in view of *Harada et al.* (USP 6,108,036); and rejected claims 8 and 20 under 35 U.S.C. §103(a) as being unpatentable over *Yamaguchi et al.* in view of *Harada et al.* and further in view of *Dischert* (USP 6,040,869). Applicant respectfully traverses these rejections.

There is No Motivation to Combine the References

In Applicant's previous Reply, Applicant argued that there was no motivation to combine the references. In response to this argument, the Examiner asserts as follows:

Although the Yamaguchi reference discloses a thinning operation for readout and the Harada reference discloses a method where all of the pixels of an imaging array are read out, this does not prevent the two references from being combined. The Harada reference is cited for the purpose of disclosing a method of producing pixel information of one line from pixel information of two adjoining lines (interlacing) and the Yamaguchi reference discloses applying gate pulses for transferring only pixel information of pairs to two adjoining lines with intervals of a plurality of lines.

Based upon these assertions, the Examiner maintains his rejection under 35 U.S.C. §103. However, Applicant respectfully submits that these comments fail to address Applicant's argument and maintains that there is no motivation to combine the *Yamaguchi et al.* and *Harada et al.* references as suggested by the Examiner.

The portion of the reference the Examiner is relying upon in support of his rejection is based upon an interlaced VGA signal, which energizes pixels in an alternate manner. *Yamaguchi et al.* reads out two lines of pixels at a time in order to ensure that one energized or charged row of pixels is read out when the thinning takes place without complicating the signal processing circuit. Because only one line of pixels is energized when pairs are read out, there is no reason to average the two lines as taught by *Harada et al.* Support for this argument can be found in the disclosure of *Yamaguchi et al.* in col. 12, lines 39-60. Further, *Yamaguchi et al.* specifically supports this argument by teaching “a situation such that a color sequence in the vertical direction which is specified by the array of the color filters is broken is prevented.” As such, Applicant maintains that one skilled in the art would not be motivated to combine the averaging of *Harada et al.* with the teachings of *Yamaguchi et al.*

Yamaguchi et al. Teaches Away from the Purported Combination

Yamaguchi et al. seeks to provide a device that obtains “an image of a good resolution” (col. 17, lines 25-26). In combining the teachings of the references, as suggested by the Examiner, *Yamaguchi et al.* would effectively be processing one energized or charged row of pixels with one non-energized or non-charged row of pixels. By doing this, signal quality would be reduced. This appears contrary to the purpose of *Yamaguchi et al.* and to the express teachings of *Yamaguchi et al.* as noted above.

As such, Applicant maintains that as *Yamaguchi et al.* teaches away from the purported combination, one skilled in the art would not be motivated to combine the teaches of the references as suggested by the Examiner.

The Cited References Fail to Teach or Suggest All of the Claim Elements

Claim 1 recites, *inter alia*, a signal processing device that produces the image signals by producing the pixel information of one line from the pixel information of each pair of two adjoining lines read from the solid imaging device when the image signals with low definition are produced.

In support of the Examiner's rejection of claim 1, the Examiner admits that *Yamaguchi et al.* fails to teach or suggest this claim element. The Examiner relies on the teachings of *Harada* to cure the deficiencies of the teachings of *Yamaguchi et al.* citing to col. 34, lines 23-41. However, Applicant disagrees that these teachings, when combined, teach the claimed invention.

As noted above, *Yamaguchi et al.* teaches reading out two lines of pixels at a time in order to ensure that one energized or charged row of pixels is read out when the thinning takes place without complicating the signal processing circuit. *Harada* teaches processing one light-receiving signal with another light-receiving signal. However, in combining the *Harada* with the teachings of *Yamaguchi et al.*, in *Yamaguchi et al.*, one of the two lines read out is not a light receiving signal as one of the rows of pixels is not charged. As such, in combining the teachings of the two references, the resultant device would produce pixel information of one line from the pixel information of **non-adjoining** lines. As such, Applicant maintains that the cited references, either alone or in combination, fail to teach or suggest all of the claim elements. Applicant maintains that claim 1 is not obvious over the references as cited.

In addition, assuming the combination of the references as purported by the Examiner, pixel information is produced from one line of each pair of non-adjoining lines. As only pairs of lines of pixel information are read out, with lines between the pairs being decimated, the lines that are combined are not lines that are spatially close to each other. As such, there is no correlation in the pixel information from the two lines of the non-adjoining lines. When the two lines of non-adjoining lines are produced, where the non-adjoining lines include color that is not correlated with each other, this results in untrue color in the produced pixel information.

However, as the present invention provides producing the pixel information of one line from the pixel information of each pair of two adjoining lines read from the solid imaging device when the image signals with low definition are produced, true color is produced because the information.

For all of the reasons noted above, Applicant maintains that the cited references, either alone or in combination, fail to teach or suggest all of the claim elements. It is respectfully requested that the outstanding rejection be withdrawn.

It is respectfully submitted that claims 5-10 are allowable for the reasons set forth above with regard to claim 1 at least based upon their dependency on claim 1.

As claims 4, 11-12, 16, and 23-24 include this element, Applicant maintains that claims 4, 11-12, 16, and 23-24, together with claims dependent thereon, are not obvious over the references as cited. It is respectfully requested that the outstanding rejection be withdrawn.

Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Catherine M. Voisin (Reg. No. 52,327) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

Marc S. Weiner

Registration No.: 32,181

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant